

MARCH 27.

The President, Dr. JOSEPH LEIDY, in the chair.

Twenty-five persons present.

A paper entitled "Notes on the Myology of *Ursus maritimus*," by Edw. A. Kelly, was presented for publication.

Trematodes of the Muskrat:—Prof. LEIDY stated that in the collection of the Academy there is a vial labelled "worms from the duodenum of the Muskrat." There are 25 worms, and in their present condition they are pale brown bordered by dark brown, and measure from 12 to 18 mm long by 1 to 1.5 mm broad. If not identical, they are closely allied to *Distomum echinatum*, which in the mature state lives in ducks and other water birds and in the larval state in fresh water snails. The Muskrat eats the latter so that it may likewise become infested in the same manner as the ducks and this would also seem to make it probable that the parasite is the same. Dujardin, Wedl, and others describe *D. echinatum* as having the fore-part of the body echinate, which is not the case with the Distome of the Muskrat, though in both the head is armed in the same manner and with the same number of spines. Its characters are as follow.

Body long, flattened, band-like, with the neck tapering and the tail obtusely rounded. Head reniform, with a coronet of strong-straight spines, from 30 to 36. Ventral acetabulum much larger than the head, situated at the base of the neck a short distance behind the latter, spherical. Body of nearly uniform width. Oral acetabulum small; pharynx oval; intestines simple and narrow. Genital orifice immediately in advance of the ventral acetabulum; cirrus exert to one side, curved and smooth; testes situated almost midway between the ventral acetabulum and tail; oviducts median behind the ventral acetabulum; ova oval, yellow; vitelline glands large and conspicuous, racemose, extending along the intestines from the ventral acetabulum to the end of the tail.

Head 0.5 to 0.6 broad; spines about 0.1 long by 0.02 thick; oral acetabulum 0.25; pharynx 0.3 long, 0.225 wide; ventral acetabulum 0.875 to 1.25 mm. Ova 0.1 long by 0.072 broad.

Since the above communication a collection of worms, from the small intestine of a Muskrat, has been received. Eighteen of the worms pertain to the supposed *Distomum echinatum*, and range from 18 to 25 mm long. In all, the fore part of the body to a short distance behind the ventral acetabulum is finely echinate, while the rest is smooth. Two other worms appear to belong to *Amphistomum subtriquetrum*, 12 and 15 mm long, a parasite previously observed only in the Beaver of Europe.

Entozoa of the Terrapin.—Prof. LEIDY stated that he had on one occasion examined eight of our much esteemed food Terrapins, to ascertain the character of their parasites. All were found to be infested with an *Echinorhynchus*, living in the small intestine and clinging by the thorny head to any part of the canal. The worms ranged from six to sixteen lines in length and in numbers from five to upwards of two hundred. The species is *Echinorhynchus hamulatus* originally described from several of our fresh water turtles. (See these Proceedings 1856, 48.)

In three of the Terrapins occurred a red thread worm, also living in the small intestine and associated with the former, and like them clinging, by their armed mouth, to the mucous membrane. The species is the *Cuculanus microcephalus*, the males up to nine lines, the females from twelve to sixteen lines. In one Terrapin there were eight, in a second over a hundred, and in the third upwards of several hundred. They extended all along the intestine but were most numerous at its upper part. The females are viviparous and contained living young.

In one Terrapin only, also in the intestine, there were two flukes, the *Amphistomum grande*, about half an inch long.

In the bladder of another Terrapin there was a single *Polystomum*, 3.5 mm long, probably *P. oblongum*, first described by Prof. Wright, of Toronto, from an individual obtained from the bladder of the Musk Turtle, *Aromochelys odoratus*.

In another Terrapin he had found four *Polystomes* of which three were in the throat and the other in the nose. These pertain to a different species from the former and may prove to be the *Polystomum ocellatum*, found in a similar position in the European Turtle, *Emys europaea*. At the genital outlet of *Polystomum* situated ventrally at the fore-part of the body, the cirrus is surrounded by a circle of hooks. In *P. integerrimum*, the species best known, and found in in Europe, living in the bladder of Frogs, the genital circle is composed of eight hooks. Prof. Wright ascribes sixteen hooks to the circle of *P. oblongum*, and this accords with the number in the *Polystomum* from the bladder of the Terrapin. In the other *Polystomes* of the latter he found the circle to be composed of thirty-two hooks. Siebold says there are forty hooks to the circle in *P. ocellatum*. Dr. Zeller figures the latter, from a sketch of Siebold, in which the caudal disk is represented as having two large hooks and eight small ones between the posterior pair of bothria. In the allied *Polystomes* of the Terrapin the number and arrangement of the hooks of the caudal disk is the same as represented in Prof. Wright's figure of *P. oblongum*. If then we have a correct record of the facts, the *Polystome* of the fauces of our terrapin may be regarded as another species which may be distinguished as follows:—

POLYSTOMUM CORONATUM. Body when elongated lanceolate. Caudal disk wider than the body, cordiform, with three pairs of bothria and with the body attached between the anterior two pairs; changeable in form to oblong, circular or quadrate; with three pairs

of minute hooks between the anterior pair of the bothria and with a larger pair and two small pairs between the last pair of bothria. Genital aperture with a circular or a transverse oval coronet of thirty-two hooks of equal length. No eyes visible. Length elongated from 4 to 6 mm.; contracting to about half the length and widening proportionately.

Besides the foregoing there was found in the intestine of one of the Terrapins a little Distome, of 3 mm. length, which though mature he had not the leisure to examine. He also observed in the throat of one a number of little anguillula-like worms which he likewise did not examine.

In all the Terrapins the flesh, liver, and other parts than those above mentioned were entirely clear of parasites; therefore in preparing these animals for food it is easy to free them from the latter by rejecting the head, intestines and bladder; or if it is thought desirable to use the intestines they should be slit open and cleansed of the contents.

Prof. Leidy added that he had recently found in the collection of the Academy, a bottle labelled "alimentary worms in terrapin." These proved to be seven bot-larvæ like those described and exhibited at a former meeting. (See Proc. 1887, 393.)

Messrs Lancaster Thomas, John B. Deaver and Gerritt H. Weaver were elected members.

The following were ordered to be printed:—